

IN THE CLAIMS:

Please CANCEL claims 20-37 and 39-72 without prejudice or disclaimer and ADD new claims 73-104 as follows.

1-72. (Cancelled)

73. (New) A method, comprising:

adaptive setting reservation of channelization codes or allowed power for a downlink shared channel, DSCH, based on parameters for a minimum allowed spreading factor or an allowed power level;

setting the parameters depending on traffic load, a total load of a cell, and availability of channelization codes;

measuring an average transmitted power of a physical downlink shared channel;

measuring a relative activity factor of the physical downlink shared channel, the relative activity factor defining the ratio between silence and activity of the physical downlink shared channel during an observation period;

measuring weighted code blocking rate, the weighted code blocking rate comprising a relative time during an observation period in which a larger bit rate than an actually allocated bit rate could have been allocated to a user equipment according to a link adaption criteria for controlling the downlink shared channel; and

adaptively adjusting at least one of a root spreading factor and allowed power for the downlink shared channel based on results of the measuring.

74. (New) The method of claim 73, comprising:

decreasing reserved power when A is smaller than TH_{A1} , and $P_{txDSCHest}$ is smaller than $(P_{txPDSCHallowed} - X)$,

wherein, A comprises an activity factor of a downlink channel, TH_{A1} comprises a threshold parameter, $P_{txDSCHest}$ comprises an estimated power of the downlink shared channel, $P_{txPDSCHallowed}$ comprises power allowed for the physical downlink shared channel, and X comprises a preset value.

75. (New) The method of claim 74, wherein the reserved power is decreased by less than or equal to X .

76. (New) The method of claim 73, comprising:

increasing allowed power by X when A is greater than TH_{A2} , and $P_{txDSCHest}$ is greater than $(P_{txPDSCHallowed} - X)$,

wherein A comprises an activity factor of a downlink channel, TH_{A2} comprises a threshold parameter, $P_{txDSCHest}$ comprises an estimated power of the downlink shared channel, $P_{txPDSCHallowed}$ comprises power allowed for the physical downlink shared channel, and X comprises a preset value.

77. (New) The method of claim 73, comprising:
allowing higher bit rates comprising decreasing SF_{min} when B is greater than TH_B ,
and A is greater than TH_{A2} ,

wherein SF_{min} comprises a minimum spreading factor, B comprises a weighted code-blocking rate, A comprises an activity factor of the downlink channel, and TH_B and TH_{A2} comprise threshold values.

78. (New) The method of claim 73, comprising:
decreasing maximum bit rate comprising increasing SF_{min} when $B = \text{zero}$ and L_{code}
is greater than TH_{code} ,

wherein SF_{min} comprises a minimum spreading factor, B comprises a weighted code-blocking rate, L_{code} comprises a current load of a code tree, and TH_{code} comprises a threshold parameter.

79. (New) The method of claim 73, comprising
allocating one of said channelization codes;
reserving a new root code comprising a given spreading factor; and
deciding where in a code tree this reserving is to be made.

80. (New) The method of claim 79, comprising
assigning codes for downlink in the code tree starting from a first limb of the code
tree; and

assigning codes for users substantially in another limb of the code tree.

81. (New) The method of claim 79, comprising
allocating a default capacity to a territory when allowed by a total load of the code
tree; and

increasing a spreading factor when the code tree is highly loaded.

82. (New) The method of claim 73, comprising measuring the total load
of the cell by power.

83. (New) An apparatus, comprising
a setter configured to adaptively set reservation of channelization codes or allowed
power for a downlink shared channel based on parameters for minimum allowed
spreading factor and allowed power level, depending on traffic load, a load of a cell and
availability of channelization codes; and

a measurer configured to measure:

average transmitted power of a physical downlink shared channel,

relative activity factor of the physical downlink shared channel, the relative
activity factor defining the ratio between silence and activity of the physical
downlink shared channel during an observation period, and

weighted code blocking rate, the weighted code blocking rate representing
the relative time during observation period where a larger bit rate than the actually

allocated bit rate could have been allocated to a user equipment according to a link adaption criteria for controlling the downlink shared channel;

wherein the setter is further configured to adjust at least one of a root spreading factor and allowed power for the downlink shared channel based on results of the measurement.

84. (New) The apparatus of claim 83, wherein the setter is configured to decrease reserved power when A is smaller than TH_{A1} , and $P_{txDSCHest}$ is smaller than $(P_{txPDSCHallowed} - X)$,

wherein A comprises an activity factor of the downlink channel, TH_{A1} comprises a threshold parameter, $P_{txDSCHest}$ comprises an estimated power of the downlink shared channel, $P_{txPDSCHallowed}$ comprises power allowed for the physical downlink shared channel, and X comprises a preset value.

85. (New) The apparatus of claim 83, wherein the reserved power is decreased by less than or equal to X .

86. (New) The apparatus of claim 83, wherein the setter is configured to increase the allowed power by X when A is greater than TH_{A2} , and $P_{txDSCHest}$ is greater than $(P_{txPDSCHallowed} - X)$,

wherein A comprises an activity factor of the downlink channel, TH_{A2} comprises a threshold parameter, $P_{txDSCHest}$ comprises estimated power of the downlink shared

channel, $P_{\text{txPDSCHallowed}}$ comprises power allowed for the physical downlink shared channel, and X comprises a preset value.

87. (New) The apparatus of claim 83, wherein the setter is configured to allowing higher bit rates comprising decreasing SF_{min} , when B is greater than TH_B , and A is greater than TH_{A2} ,

wherein SF_{min} comprises a minimum spreading factor, B comprises a weighted code-blocking rate, A comprises an activity factor of the downlink channel, and TH_B and TH_{A2} comprise threshold values.

88. (New) The apparatus of claim 83, wherein the setter is configured to decrease maximum bit rate comprising increasing SF_{min} when $B = \text{zero}$, and L_{code} is greater than TH_{code} ,

wherein SF_{min} comprises a minimum spreading factor, B comprises a weighted code-blocking rate, L_{code} comprises a current load of a code tree, and TH_{code} comprises a threshold parameter.

89. (New) The apparatus of claim 83, wherein the setter is configured to reserve a new root code with a given spreading factor, and decide where in a code tree this reservation is to be made.

90. (New) The apparatus of claim 83, wherein the setter is configured to assign codes for downlink in a code tree starting from a certain limb of the code tree, and

assign codes for users in another limb of the code tree.

91. (New) The apparatus of claim 89, wherein the setter is configured to: allocate a default capacity to a territory when allowed by a total load of the code tree; and

increase a spreading factor when the code tree is highly loaded.

92. (New) The apparatus of claim 83, wherein the measurer is configured to measure the total load of the cell by measuring power.

93. (New) An apparatus, comprising
setting means for adaptively setting reservation of channelization codes or allowed power for a downlink shared channel based on parameters for minimum allowed spreading factor or allowed power level, depending on traffic load, a load of a cell and availability of channelization codes,

measuring means for measuring average transmitted power of a physical downlink shared channel, relative activity factor of the physical downlink shared channel, the relative activity factor defining the ratio between silence and activity of the physical downlink shared channel during an observation period, and weighted code blocking rate,

the weighted code blocking rate comprising the relative time during observation period in which a larger bit rate than an actually allocated bit rate could have been allocated to a user equipment according to a link adaption criteria for controlling the downlink shared channel; and

adjusting means for adjusting a root spreading factor and allowed power for the downlink shared channel based on the measuring.

94. (New) The apparatus of claim 93, comprising decreasing means for decreasing reserved power when A is smaller than TH_{A1} , and $P_{txDSCHest}$ is smaller than $(P_{txPDSCHallowed} - X)$,

wherein A comprises an activity factor of the downlink channel, TH_{A1} comprises a threshold parameter, $P_{txDSCHest}$ comprises an estimated power of the downlink shared channel, $P_{txPDSCHallowed}$ comprises power allowed for the physical downlink shared channel, and X comprises a preset value.

95. (New) The apparatus of claim 94, wherein the decreasing means are for decreasing reserved power by less than or equal to X .

96. (New) The apparatus of claim 93, comprising increasing means for increasing allowed power by X when A is greater than TH_{A2} , and $P_{txDSCHest}$ is greater than $(P_{txPDSCHallowed} - X)$,

wherein A comprises an activity factor of the downlink channel, TH_{A2} comprises a threshold parameter, $P_{txDSCHest}$ comprises an estimated power of the downlink shared channel, $P_{txPDSCHallowed}$ comprises a power allowed for the physical downlink shared channel, and X comprises a preset value.

97. (New) An apparatus, configured to measure:

average transmitted power of a physical downlink shared channel,

relative activity factor of the physical downlink shared channel, the relative activity factor defining the ratio between silence and activity of the physical downlink shared channel during an observation period, and

weighted code blocking rate, the weighted code blocking rate representing the relative time during observation period where a larger bit rate than the actually allocated bit rate could have been allocated to a user equipment according to a link adaption criteria for controlling the downlink shared channel.

98. (New) The apparatus of claim 97, wherein the apparatus is further configured to decrease reserved power when A is smaller than TH_{A1} , and $P_{txDSCHest}$ is smaller than $(P_{txPDSCHallowed} - X)$,

wherein A comprises an activity factor of the downlink channel, TH_{A1} comprises a threshold parameter, $P_{txDSCHest}$ comprises an estimated power of the downlink shared channel, $P_{txPDSCHallowed}$ comprises a power allowed for the physical downlink shared channel, and X comprises a preset value.

99. (New) The apparatus of claim 98, wherein the reserved power is decreased by less than or equal to X .

100. (New) The apparatus of claim 97, wherein the apparatus is further configured to increase the allowed power by X when A is greater than TH_{A2} , and $P_{txDSCHest}$ is greater than $(P_{txPDSCHallowed} - X)$,

wherein A comprises an activity factor of the downlink channel, TH_{A2} comprises a threshold parameter, $P_{txDSCHest}$ comprises an estimated power of the downlink shared channel, $P_{txPDSCHallowed}$ comprises a power allowed for the physical downlink shared channel, and X comprises a preset value.

101. (New) A computer program embodied on a computer-readable medium, comprising computer-executable components for:

adaptive setting reservation of channelization codes or allowed power for a downlink shared channel based on parameters for minimum allowed spreading factor or allowed power level;

setting the parameters depending on traffic load, a total load of a cell and availability of channelization codes;

measuring average transmitted power of a physical downlink shared channel;

measuring relative activity factor of the physical downlink shared channel, the relative activity factor defining the ratio between silence and activity of the physical downlink shared channel during an observation period;

measuring weighted code blocking rate, the weighted code blocking rate being defined as the relative time during observation period where a larger bit rate than the actually allocated bit rate could have been allocated to a user equipment according to a link adaption criteria for controlling the downlink shared channel; and

adaptively adjusting a root spreading factor and allowed power for the downlink shared channel based on results of the measuring.

102. (New) The computer program embodied on a computer-readable medium of claim 101, further comprising a computer-executable component for decreasing reserved power when A is smaller than TH_{AI} , and $P_{txDSCHest}$ is smaller than $(P_{txPDSCHallowed} - X)$,

wherein A comprises an activity factor of the downlink channel, TH_{AI} comprises a threshold parameter, $P_{txDSCHest}$ comprises an estimated power of the downlink shared channel, $P_{txPDSCHallowed}$ comprises power allowed for the physical downlink shared channel, and X comprises a preset value.

103. (New) The computer program of claim 102, wherein the reserved power is decreased by less than or equal to X .

104. (New) The computer program embodied on a computer-readable medium, of claim 101, comprising a computer-executable component for increasing the allowed power by X when A is greater than TH_{A2} , and $P_{txDSCHest}$ is greater than $(P_{txPDSCHallowed} - X)$,

wherein A comprises an activity factor of the downlink channel, TH_{A2} comprises a threshold parameter, $P_{txDSCHest}$ comprises an estimated power of the downlink shared channel, $P_{txPDSCHallowed}$ comprises a power allowed for the physical downlink shared channel, and X comprises a preset value.